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7 May 1971

[redacted]

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In the critique of my first draft of DD/S&T history
[redacted] of the Historical Staff raised the following question
which I hope you can give me some language to answer:

The point that most Agency RD&E is focused on the development of operational systems instead of on broad based exploration looking toward scientific breakthroughs is quite appropriate. This is a major problem, but some basic research sponsored by the Agency is so general and so abstract that it is not only costly but duplicates activities that have very broad non-intelligence applications. A number of ORD projects have been in this category, such as non-structured retrieval systems. What has DDS&T thinking been like on this subject?

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There is no basic research in the Agency program: there is very little applied research. This reflects the widely used criteria that basic research is directed only to improving the state of knowledge, and that applied research is "mission-oriented," i.e., there is a clear relationship between the effort & Agency needs. For example, a bit of applied research in physiology is sponsored to determine if such phenomena as eye movement or temperature changes might be used as reliable

Polygraph data.

Duplication is generally a wise policy in research - basic & applied. The reason for this lies in the high degree of uncertainty associated with the problem. Watson & Crick in The Double Helix illustrate this vividly. Sid Gattlieb has requested ORD to duplicate some exploratory TSD efforts in - and it has STAT paid off. It's very difficult for researchers to remain unbiased & maintain an open mind.

Now, the Agency has undoubtedly undertaken some work it shouldn't have and may have performed poorly at times. Further, the relative balance may have been less than ideal, - but perfection is not attainable, and, especially in research, represents a subjective view. That's the reason most research work in academic institutions

is approved by committee. In the Agency the decision to undertake any R.D effort must be approved at different levels depending on the funds required.

In the case of ORD & some of the computer work, it is important to consider several factors: the decision to establish & maintain the IPRD has been hotly debated & it will probably remain a questionable way of advancing the Agency's capabilities in using computers; is the activity or research intended perhaps in large part simply to put the Agency on "the team" so as to remain aware of developments? is it in part to retain some particularly valuable staff employees who might otherwise resign if they could only work on mundane programs?

In brief - the Agency sponsors almost no research, but does so for a variety of reasons & purposes from time to time.

ORD Budget

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In FY 1963 the ORD budget was approved for [] and later increased by [] A plan had been ~~xxx~~ formulated on the inception of ORD, and approved in principle by the DDCI, for an increase to [] for FY 1964, and a later plan by the DD/S&T, Dr. Wheelon, visualized a five-year growth of research and development within the programs ~~xxxxxxx~~ scope of scientific disciplines which would play a vital part in the intelligence process.

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Comparative ORD budgets for ~~xxx~~ Fiscal Years 1963 through 1970 are shown below, *in thousands;*

FY 1963
FY 1964
FY 1965
FY 1966
FY 1967
FY 1968
FY 1969
FY 1970

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*From interview with
Mr. Robert Chapman,
D/ORD -*

among the various scientific disciplines
The theory of "cross fertilization"/propounded by Mr. McCone
and Dr. Scoville has worked pretty well within ORD.
Mr. Chapman's insistence that the scientists of ORD not
deteriorate into simply letting contracts for research
and development, and through the use of

but keep in constant communication with industrial and
the academic advancements in their fields of endeavor. The
use of such devices as the [redacted] is a very
valuable tool in this regard /Find out what I/J is and does/

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There has been, and probably will continue to be, an area
of indecision in R&D programming: ~~Should~~ ^{How much of} R&D be completely
tuned to satisfying immediate priority requirements?
How much should be devoted to innovation looking to the
future? We must remember that five years is about average
to bring a sophisticated new piece of equipment or system
from research and development ^{to} production and operation;
therefore someone must make hard ~~decisions~~ ^{decisions} current decisions
looking five years ahead if we are to ~~preserve~~ ^{keep} our
reserve equity against the future.

ILLEGIB

~~As~~ The PFIAB recommendations with regard to use of
U.S. industrial and academic advancement and facilities
to the fullest possible, (look back at the wording of their
recommendation).

~~Recommendations~~
*Savings by contracting problems
out to research institutes, & laboratories
who have facilities & trained personnel
available to do the work.*

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Because of funding restraints, primary R&D attention has centered on mature technology rather than on nascent scientific breakthroughs--on operational systems rather than research. Over a long term such economies may result in missed opportunities, which when eventually recognized may cost considerably more as short-term crash programs than the relatively modest costs of regular research. The total Agency R&D program, perhaps more so than any of the others, is being squeezed hard by inflation

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R,D & E (1970 rep to PFIAB)

R, D & E seeks to create new ways of applying technology to the needs of intel collection, production and communications, by innovative experimentation and by the adaptation and exploitation of American and foreign technology; and, because of the technological sophistication of other great powers, R D &E must also develop protective and countermeasure capabilities.

RD&E efforts have been grouped under a revised program structure which should improve our ability to plan and evaluate R&D efforts and improve communication and coordination among R&D offices. During coming yr we plan to reduce RD&E for collection systems but increase efforts in communication, information processing and exploitation, and in covert action/program-wide categories.

In addition to research areas noted above, the Agency provides management support to NBO-funded projects, such as which discussed elsewhere.

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1962 - DD/R establishment:

Opposition of DD/P to relinquish TSD's R&D functions.
First Bissell, and then Helms.

Agreement by Helms to give ORD the R&D activities
of TSD which were directed toward systems and
equipment not directly supporting the CS. (March 1962)

The Executive Director (LBK) recommended the DD/R
grow by accretion rather than through surgery on
DD/P(TSD) and DD/I(OSI). The DD/R to have authority
to recruit personnel as well as borrow or acquire
from DD/I and DD/P in order to establish his own
R&D organization.

July 1962: Kirkpatrick spelled out division of
responsibilities: between DD/P and DD/R and
re TSD said R&D

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unless specifically and mutually agreed; DD/R
R&D adaptable to DD/P opns to be reviewed jointly
on reaching breadboard stage.

30 July 1962: [] set up DD/R (and ORD).

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Toward end of 1962, certain TSD projects turned over
to ORD []

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March 1963 - PFIAB recommendations for strengthening
technical capabilities for collecting intelligence;
noted the fragmentation and compartmentation of
R&D in CIA; recommended admin arrangement to bring
the whole spectrum of modern S&T to bear on major
programs and projects of CIA.

Aug 1963: OSI and OCS under DD/S&T; Wheelon named Chairman
of R&D Review Bd., but no further mention of TSD
relinquishing any more projects---were there other
transfers out of TSD at that time?

No

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Notes from
[Redacted]
DC/TSD

Question: Do TSD scientific types belong to the "P" Career Service? Can they opt for the "R"?

1964: ? what developed? ORD beginning to build -

Neither, they have "T" designation

Sept 1965: Coordination of R, D & E --

[Redacted] (OPSER) unhappy with terms of reference of ORD; encroaching on those of TSD in the R&D sphere.

[Redacted] 17 July 1967 - agreement.

"By centrally coordinating planning, and monitoring, while maintaining decentralized execution of projects, Agency talent may be effectively grouped to exploit expertise in research, and at the same time retain engineering support in close contact with operational elements."

Is [Redacted] still in force? What about the ORD/TSD agreement signed at the same time?

What does it provide for? (A copy for annex?)

[Redacted]

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[Redacted]

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It was extended to Aug. 69 when it has expired, but no one has reopened the questions. Procedures have continued -

TSD unhappiness with the current arrangement stems mainly from two causes: (1) the fact that the R&D/S&T acts as both protagonist & judge in decision-making in projects where R&D is major & judged one approved for less support. And (2) the fact that the R&D/S&T is considered a "hunted" group by ORD & is "fueled" by ORD.

Joint projects - TSD with ORD:

Over the past four years approximately seven projects ~~researched~~ carried through research and development by ORD have been turned over to TSD for application to clandestine operations, but only one ^{of these} project has actually ^{achieved} come to the operational ^{usage} stage in the field.

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Better coordination of RD&E is necessary to increase the Agency's efficiency, preclude duplication in contracts and fragmentation of effort, and otherwise improve over-all performance.

A particular objective of the effort to coordinate RD&E was to facilitate communications between those elements of the Agency conducting R&D, those concerned with development and engineering work directly supporting operational units, and those responsible for operations.

A procedure whereby requirements could be identified and consolidated into a coordinated plan, and proposed and ~~XXXXXXXXXXXXXXX~~ active RD&E programs could be monitored.

Thus the philosophy of centrally coordinating the planning and monitoring while decentralizing the execution of ^{RD&E} projects.

The DD/S&T given responsibility to Director for coordination; to convene annual meeting of other DD's to coordinate total program consistent with Agency's goals and objectives, within available resources.

Cost estimates to be prepared by offices engaged in RD&E; all proposals consolidated by DD/S&T into single Agency plan;

DD/S&T to participate in any significant reprogramming resulting
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in budget actions, shifts of program emphasis, technical breakthroughs or change of goals.

DD/S&T to establish mutually acceptable procedures with other DD's so that proposed RD&E undertakings will be reviewed to insure compatibility with the Agency-wide program, and the DD/S&T will technically review all actions requiring the approval of the DCI.

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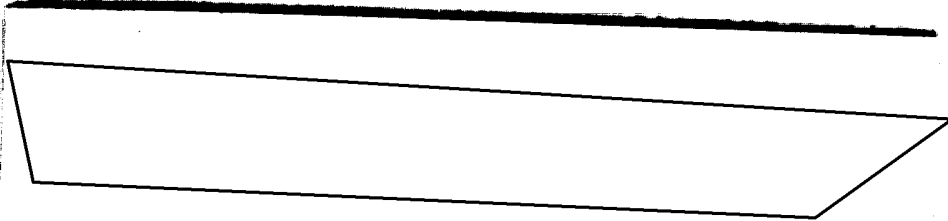
1. R&D money until 1967 each Directorate argued its own case separately with PPB and BOB.
2. Afterwards the whole CIA program has been brought together; more effective procedures - under the RD&E authority of the DD/S&T for coordinating the whole ball of wax.

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Add to RDC Sec 1

of SSST History

R&D requirements are so broad as to lack guidance. ONE or PPB do nothing helpful to preparing R&D program. The focus is on technology and weapons. There is no place at present in the Agency where guidance will be developed. For the future, work is being done on a list of requirements for R & D, (under auspices of the RDT & Recon Board).



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R.T.S.

mems for Rec. 22 Jan. 69 -

[redacted] CMB/DDST

No way of precisely defining

DDST
318-69

R & D level in CIA -

Recent downward trend in funding
causing serious concern - CIA R & D
budget too low small. Difficulty arises

(over 1

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because new problems requiring
R+D arise requiring expenditure
of resources after long range &
even current budgets are
prepared & set. Some form
other than release from resources
necessary - possibly an item for the
"not such" (Elementary R+D)

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